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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/647,130 | 08/22/2003 | Axel Tillmann | 22623 | 1040 |

535 7590 01/25/2006

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| EXAMINER |
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TERESINSKI, JOHN

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| ART UNIT | PAPER NUMBER |
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2858

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/647,130

Applicant(s)

TILLMANN ET AL.

Examiner

John Teresinski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-14 and 17 is/are allowed.
- 6) ☒ Claim(s) 15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,346,307 to Ramirez et al. in view of U.S. Patent No. 6,507,201 to Tominaga et al. and U.S. Patent No. 6,384,614 to Hager et al..

Regarding claims 15 and 16, Ramirez et al. disclose two sets of electrode bodies each formed with two electrically separate surfaces/electrodes positioned to contact simultaneously a sample, the electrode bodies/probes spaced apart in the sample for characterizing the sample in between the two electrode bodies/probes (column 2 lines 26-42, column 3 lines 5-21, Fig. 1), an electrical excitation source (18) connected to one of the surfaces of an electrode for feeding an electrical signal through sample (12), and a high ohmic electrical potential measuring unit connected to the other of the surfaces of each electrode body for measuring an electrical potential across the sample resulting from application of the electrical excitation signal (column 2 lines 37-42, Fig. 1 element 20).

Ramirez et al. discloses a number of electrodes are placed in electrical contact with soil in two boreholes. Ramirez et al. does not teach two electrode bodies each formed with two electrically separate surfaces, or electrical spikes driven into the ground (Fig. 1). Tominaga et al. disclose a subsurface ground probe having multiple electrode surfaces supported on a probe

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body/stake which are driven into the ground (column 3 lines 55-67, column 5 lines 22-25, column 8 lines 40-49, Fig. 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include electrode bodies for supporting the electrodes as taught by Tominaga et al. into Ramirez et al. for the purpose of facilitating in installation of electrodes by reducing resistance offered when the electrodes are thrust into the ground (column 10 lines 62-67).

Ramirez et al. does not teach an electrical excitation source connected to one of the surfaces/electrodes of each electrode body. Hager et al. disclose two electrode bodies/probes, the electrode bodies/probes spaced apart in the sample for characterizing the sample in between the two electrode bodies/probes (column 1 lines 45-67, Fig. 1 and 3 elements 12 and 14), an electrical excitation source (42) connected to one of the surfaces of each electrode body for feeding an electrical signal through sample (16), and a high ohmic electrical potential measuring unit connected to the other of the surfaces of each electrode body for measuring an electrical potential across the sample resulting from application of the electrical excitation signal (column 4 lines 10-30, Fig. 3 element 150). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an electrical excitation source connected to one of the surfaces of each electrode body as taught by Hager et al. into Ramirez et al. for the purpose of providing accurate measurements between the probe bodies (column 1 lines 45-55).

Allowable Subject Matter

Claims 9-14 and 17 remain allowed.

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Response to Arguments

Applicant's arguments with respect to claims 15 and 16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Teresinski whose telephone number is (571) 272-2235. The examiner can normally be reached on M-F 8:30 - 5:00.

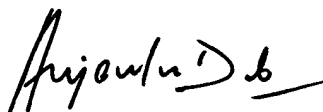
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST

JT

January 20, 2006



ANJAN DEB
PRIMARY EXAMINER